



Minister's Message

It's 10 years since the Ministry of Energy was created.

During that relatively short time span a great deal has happened both in terms of the broad energy scene and the Ministry's development.

We have witnessed two major crude oil shocks which have dramatically affected the world's economic order; an almost continual battle between the crude oil and natural gas producing provinces and the federal government over revenue sharing; shifts in the way consumers use energy; the building of several energy mega-projects and the shelving of others.

Substantial investments have been made in research and development aimed at reducing our dependence on non-renewable resources.

There may be some perception that energy supply problems are behind us, but the International Energy Agency, in its most recent report concluded, "the basic vulnerability of the world economy to oil supply disruptions is far from being eliminated....With oil prices falling, there is a danger that misleading market signals will cause both complacency among energy consumers and hesitation among investors, with the result that problems foreseen for the late 1980s and the 1990s are not adequately dealt with in time."

Energy issues continue to have an impact on everyone's life, on the operations of all organizations and in particular on all the agencies and ministries of the Ontario Government.

The purpose of this document is to provide a context for energy planning across government. The focus is on the medium term, that is the next three to five years, but longer-term considerations are also incorporated in the document.

It is our intention to update these Medium-Term Planning Guidelines and to re-issue them in the spring of each year so that they can be used in planning for the next fiscal year.

We welcome your comments on this document. These should be sent to the Deputy Minister, Ministry of Energy, Queen's Park, Toronto, Ontario, M7A 2B7.

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Minister of Energy
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Medium-Term Planning Guidelines

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Introduction

The purpose of this document is to develop planning guidelines that will provide direction to the Ministry of Energy and other government agencies in their energy-related planning over the next three to five years.

The document is divided into five parts.

Ministry Mandate

- The mandate summarizes the duties and responsibilities of the Ministry.

Planning Environment

- The social, economic and technical factors and issues which are likely to affect energy policies and programs over the next three to five years are briefly outlined.

Planning Themes

- This section describes the themes that underlie the energy planning process. They are divided into two groups:-
General Themes that have broad applicability to government-wide planning and most energy areas and
Energy Themes that relate to specific energy matters.

Energy Security: Goal and Targets

- The fourth section states the targets that have been adopted by the government as measurable indicators of progress towards achieving the goal of energy security.

Key Planned Activities

- The final section outlines the key activities and initiatives the Ministry will undertake over the next three to five years to fulfil its mandate. They are grouped under the energy planning themes to which they relate.

Ministry Mandate

The mandate is based upon Section 8 of the Ministry of Energy Act and subsequent Cabinet decisions authorizing energy initiatives in several areas. It can be described as follows:

- Ensure, both in the short term and long term, that an adequate supply of energy is available at reasonable cost to consumers with minimal impact on the environment.
- Promote the efficient use of energy, stimulate energy research and development, encourage the development of new energy sources, and facilitate changes in energy supply and use which will help ensure Ontario's energy security.

- Provide advice and leadership within the government on energy issues.
- Ensure public and economic welfare during an energy shortage or perceived shortage.

The Ministry typically carries out its mandate by working through other agencies, ministries and levels of government.

Planning Environment

The planning process for energy policies and programs should recognize the wide variety of social, economic and technical factors which may affect it. The more important factors and associated forecasts are described under the following headings:

The Economy

- Economic upturn will be slower than in past recoveries, with growth around 2-3 per cent in 1983 and 4-5 per cent in 1984. Greater volatility will affect investment.
- Inflation will average 5 to 7 per cent over the next three years; short-term interest rates should fall to around 9 per cent but long-term rates will remain higher.
- Capital investment will remain very low until 1984, except for housing which may turn up sharply in 1983.
- Unemployment will remain very high (around 11-12 per cent) despite economic recovery.
- Oil imports will rise again as production from established conventional Western Canadian reserves continues to decline, from an average of 195,000m³ per day in 1982 to 135,000m³ per day in 1985 and 80,000m³ per day in 1990. Self-sufficiency by 1990 is unlikely, given the delay in Hibernia development.
- Domestic crude oil prices will be at or near world prices. Product prices will rise at or below inflation for the next three to five years. Canada's international price advantage has largely been lost and will be regained only if international prices rise while domestic prices are restrained. This is considered unlikely in the medium term.

Natural Gas

- Abundant natural gas supplies will prevail for at least the next decade. Export volumes will depend on competitive pricing policies.
- The wholesale price of natural gas could range from 60 to 70 per cent of crude oil equivalent price this decade. User prices may stabilize in the next one to two years, and then rise at or below inflation for the next two to three years.

Electricity

- Low electricity demand growth and Ontario Hydro's large committed construction program will lead to continued surplus capacity, financial constraints and upward pressure on rates.
- Hydro's new corporate strategy stresses cost reductions, measures to increase market penetration and development of related business opportunities.
- Electricity's price competitiveness has greatly improved over the last five years; Ontario Hydro aims to keep future rate increases at or below inflation.

World Oil Situation

- Assuming OPEC political stability, world economic growth will largely determine oil price trends. Price softness is expected for two years, with potential for a drop below \$29 U.S. /bbl. No real price increases are expected until the late 1980's.
- While the risk of oil supply disruptions has diminished in the medium term, forecasts indicate tight supply and upward pressure on international prices in the late 1980's or early 1990's.

Canadian Oil

- Oil consumption will fall by 1 per cent per year until 1990 (according to Energy, Mines and Resources Canada), following a 21 per cent fall from 1979 to 1982.

Ontario Energy Demand

- Total energy demand will increase by 1 to 1.5 per cent a year during the 1980's. Growth rates will average about 2 per cent for electricity and natural gas; oil demand will continue to fall but at only 1 to 2 per cent a year.
- Intense inter-fuel competition in residential, commercial and industrial markets will result from continuing surplus capacity in the electricity, oil refinery and natural gas sectors.

Ontario Government

- Expenditure restraint will continue and may intensify.
- Government priorities will remain focussed on economic development, technology, and job creation. Low-cost and cost-shared (with federal or private partners) programs will be favoured.
- Further improvement in efficiency and effectiveness within Government operations will be emphasized.

Federal Government

- The federal government faces continuing large deficits. Expenditures on high-cost new energy programs are unlikely.
- Oil and gas taxes will remain important revenue sources, although at levels below former expectations.

Public

- Energy availability and energy issues in general are no longer major public concerns, with the exception of pricing which will continue to be a cause of concern and controversy.
- The conservation ethic is widely held.
- Cost savings resulting from improved efficiency of energy use will be an important motivator. Unless new technologies are adopted, the cost-effectiveness of further conservation measures will decline.
- Environmental concerns over safety, emissions and nuclear waste management will continue.
- Public support continues for longer-term energy research, development and demonstration.
- Communications on energy matters operate in a cluttered environment with spokesmen from oil companies, gas utilities, anti-nuclear groups, Ontario Hydro, insulation manufacturers, car makers, builders and the federal and Alberta governments, among others, communicating a variety of energy-related messages, not all of which agree.

Planning Themes

A. General (Lateral) Planning Themes

The following general themes have broad applicability to government-wide planning and, therefore, to planning in most energy areas:

A1. Technology Development

- Provide co-ordination and stimulation for promising energy-related R&D being carried out by Ontario-based industries, agencies and universities.
- Reduce institutional barriers which hinder the commercialization of energy technologies.
- Facilitate the transfer of technology. This process is essential to the commercialization and implementation of new technologies.

A2. Economic Recovery

- Create an appropriate climate for the private sector to foster economic growth.
- Enhance the competitiveness of industry by improving the productivity of energy consumed.
- Give high priority to encouraging energy-related investments that create jobs and economic activity in Ontario.

A3. Public Acceptance and Support

- Education, marketing, and gaining the public's co-operation are vital to the achievement of the province's energy objectives.

- Acceptance of major energy-related policies, programs and behaviours will have to be built through planned, step-by-step communications with the general public, special interest groups and within the Ontario government.

A4. Influence on National Energy Policy

- Influence energy developments at the national level that are of vital importance to Ontario.
- Demonstrate leadership and presence in key areas of the energy scene.
- Improve the co-ordination of energy matters with the other provinces and the federal government.

A5. Information and Analysis

- Monitor the external environment continuously and change directions and targets as necessary.
- Maintain a high-quality intelligence, information and analysis capability.

A6. Environmental Acceptability

- Ensure that environmental considerations are recognized and the Ministry fulfils its requirements under the Environmental Assessment Act.

B. Energy Planning Themes

Within the context of the Ministry's mandate over the medium term, there are a number of specific energy policy themes.

B1. Conventional Energy Supply

- In view of the prospects for long term crude oil shortages, continue to encourage initiatives and policies toward the maintenance of a secure and adequate supply of conventional energy over the medium and long term.

B2. Efficient Use of Energy

- Act as the agent of change in the marketplace to contribute to more efficient utilization of energy and to stimulate development of new conservation technologies.

B3. Oil Substitution

- Encourage the substitution of other fuels for oil in all sectors of energy consumption.

B4. Non-Conventional Energy Development

- Capitalize on Ontario's renewable energy resources, the potential for renewable and non-conventional energy applications, and our technological, industrial and human resources to contribute to energy security.

B5. Consumer Interests

- Energy prices should be fair. Energy systems and energy products should be safe and effective. Consumers should have complete facts, clearly stated, for energy decisions.

B6. Contingency Planning

- Contingency plans must be in place to deal with possible shortages resulting from disruptions to our energy supply systems.

B7. Canadian Ownership and Control

- Support initiatives to increase the level of Canadian ownership and control of the energy supply industry.

Energy Security: Goal and Targets

Our goal is to ensure energy security for Ontario at reasonable cost to the economy and the environment.

The following specific targets have been adopted by the Government of Ontario as measurable indicators of progress towards this goal:

1. Energy Supply Targets

- a) Achieve self-sufficiency in crude oil for Canada by 1990.
- b) Increase Ontario's indigenous energy production to 37.5 per cent of total primary supply by 1995.

2. Oil Substitution Target

- a) Reduce oil's share to 10 per cent in the residential, commercial and industrial sectors by 1990, and to 90 per cent in the transportation sector by 1995.

3. Energy Efficiency Targets

- a) Reduce transportation fuel consumption per unit of transportation demand by 33 per cent in the passenger sector and 20 per cent in the freight sector, by 1995 over 1980.

- b) Improve by 30 per cent the average household energy efficiency, by 1995 over 1980.

- c) Improve by 20 per cent the energy efficiency of commercial buildings, by 1995 over 1980.

- d) Reduce energy consumed in the industrial sector per unit of output by 25 per cent by 1985 over 1975.

4. Alternative and Renewable Energy Target

- a) Produce at least five per cent of Ontario's total primary energy requirements from renewable and recoverable resources, excluding hydro-electricity, by 1995.

Note: These targets are not intended to cover all aspects of energy programs and initiatives.

Key Planned Activities

The planning themes and planning environment described earlier underlie the framework in which to identify the Ministry's key activities for the medium term. The following activities are grouped under the specific energy planning themes outlined earlier.

1. Conventional Energy Supply

Theme: In view of the prospects for long-term oil shortages, continue to encourage initiatives and policies toward the maintenance of a secure and adequate supply of conventional energy over the medium and long term.

Key Activities:

- Emphasize the need to develop new supplies to ensure adequacy of supply for the medium to long term.
 - Promote progress in development of oil sands, heavy crude oil and frontier oil
 - Promote adequate oil transportation systems from new sources (e.g. Hibernia)
 - Support OEC investment in frontier and conventional oil and gas development and transportation
 - Review the need for new, as yet uncommitted, electrical generation to ensure timely development and optimal choice among alternative sources.
- Promote timely development of transmission and distribution systems and interconnections to enable Ontario to make cost-effective use of its electrical generating system.
- Establish and advocate Ontario's policy on:

- crude oil and natural gas pricing;
- future crude oil supply;
- viability of the petrochemical industry;
- refinery over-capacity and rationalization;
- petroleum product marketing;
- natural gas supply to industry;
- need for new natural gas pipeline facilities and allocation of costs for such facilities.

- Develop options to sustain the Canadian nuclear industry.
- Continue participation in the research program to develop a long-term solution for the management of waste from the nuclear generation process.
- Ensure compliance with the environmental assessment process and avoid unnecessary delays.
- Support Ontario's energy security goal to provide additional hydraulic power with emphasis on small hydro.

2. Efficient Use of Energy

Theme: Act as the agent of change in the marketplace to contribute to more efficient utilization of energy.

Key Activities:

- Emphasize the short- and medium-term economic benefits that result from appropriate conservation actions.
- Support and co-ordinate advisory services such as Heat Save and the Residential Energy Advisory Program (REAP), community initiatives such as Energy Conservation Community Outreach (ECCO), and consultative planning with municipalities.

- Improve the transfer of information on low-energy housing construction to the building industry, and develop training courses in low-energy housing construction techniques for tradesmen.
- Encourage industrial firms to establish energy management groups, and to facilitate the transfer of conservation technology and information among firms.
- Remove institutional barriers to the sale of recovered heat and of electricity produced by co-generation schemes.
- Improve utilization and technology of heat pumps.
- Expand the use of van-pooling and ride-sharing to improve passenger load factors and the use of traffic management systems to save energy.
- Establish an energy management information data base for large users such as commercial buildings, municipalities and fleets.
- Expand driver training in fuel efficiency for private and public fleets.
- Establish standards for adequate air quality and combustion air supply in housing. Develop preventive and corrective measures to deal with problems and ensure the public is properly informed.
- Encourage refinery rationalization and upgrading to improve the efficiency of conversion to petroleum products.
- Influence Ontario Hydro's new marketing initiatives so they are consistent with Ministry programmes and government policy.

- Identify and promote opportunities to improve Ontario Hydro's system load factor through load management, rate structures and off-peak electricity export sales.
- Explore and encourage opportunities to use the by-product heat energy produced at thermal generating plants.

3. Oil Substitution

Theme: Encourage the substitution of other fuels for oil in all sectors of energy consumption.

Key Activities:

- Continue to promote the wider use of propane, compressed natural gas (CNG) and methanol blends for transportation purposes, and to support RD&D for longer-term alternative fuels such as methanol and hydrogen.
- Work with the gas utilities to accelerate the most financially promising expansions of the natural gas distribution system.
- Encourage dual-fuelled (e.g. oil and gas) energy systems as a more flexible alternative to going completely off oil, where appropriate.
- Encourage the greater utilization of electricity in the domestic market as part of the national off-oil effort and the BILD thrust.
- Investigate and encourage new applications of electricity that can displace oil and maximize the economic contribution electricity can play.

- Promote increased penetration of wood energy in the residential space heating market by demonstrating wood-fuelled, self-regulating residential furnaces and disseminating information on all aspects of wood heating.

4. Non-Conventional Energy Development

Theme: Capitalize on Ontario's renewable energy resources, the potential for renewable and non-conventional energy applications, and our technological, industrial and human resources to contribute to energy security.

Key Activities:

- Focus demonstration efforts on technologies which are cost-competitive and nearest to commercialization, e.g. municipal solid waste (MSW); wood combustion, gasification and densification; passive solar and active solar pool heating; and propane, CNG and methanol blends in transportation.
- Focus research and development (R&D) efforts on technologies offering long-term benefits but not yet ready for commercialization, including neat methanol, gasohol, methanol from wood, propane-diesel, active solar hot water and air heating, methane from waste and peat combustion.
- Develop and demonstrate innovative financing mechanisms for government involvement and private sector investment in non-conventional energy systems.
- Support studies to identify and deal with environmental problems associated with the implementation of energy-from-waste (EFW) projects.

- Obtain support for research, development and demonstration of peat, lignite, oil shale and oil-mining.
- Encourage Ontario's involvement with international R&D efforts in fusion energy and increase its competence and participation in current fusion-related industrial opportunities.
- Co-ordinate non-conventional energy technology development and technology transfer.

5. Consumer Interests

Theme: Energy prices should be fair. Energy systems and energy products should be safe and effective. Consumers should have all the available facts, clearly stated, for energy decisions. Consumers should have the opportunity to have their say in energy decisions.

Key Activities:

- Ensure Ontario's energy consumers interests are safeguarded by:
 - facilitating review of Ontario Hydro's electricity rate proposals including special rates, ensuring that innovative pricing proposals are economically and cost justified and are equitable amongst customer groups.
 - representing Ontario's position on oil and natural gas pricing and appearing at related hearings before regulatory authorities.
 - monitoring the energy markets in Ontario to ensure fair competition and adequate and meaningful information is available to the consumer.

- encouraging the establishment of standards and dissemination of information on safety related to energy use.
- providing consumers greater access to the regulation and review of natural gas and electricity rates.
- developing approaches to meet the energy needs of remote communities in the most economic manner.

6. Contingency Planning

Theme: Contingency plans must be in place to deal with shortages resulting from disruption to our energy supply systems.

Key Activities:

- Develop an internal government plan to ensure that essential government services can be maintained and leadership is demonstrated during any period of shortage.
- Develop a communications program to ensure a co-ordinated, consistent and accurate message at the time of a shortage.
- Liaise with the federal and other provincial governments.
- Activate co-ordination of contingency planning with key groups outside government, e.g. municipalities and the oil industry.

7. Canadian Ownership and Control

Theme: Support initiatives to increase the level of Canadian ownership and control of the energy supply industry.

Key Activities:

- Encourage Ontario Hydro to develop cost effective business ventures which are supportive of the private sector and which relate to its primary mandate to supply electricity to Ontario consumers in a safe, reliable manner at the lowest long-term cost with due consideration of the environment.
- Support investment by the Ontario Energy Corporation (OEC) to enhance Canadian control of the oil and gas industry.